



Sound Quality. Sound Engineering.

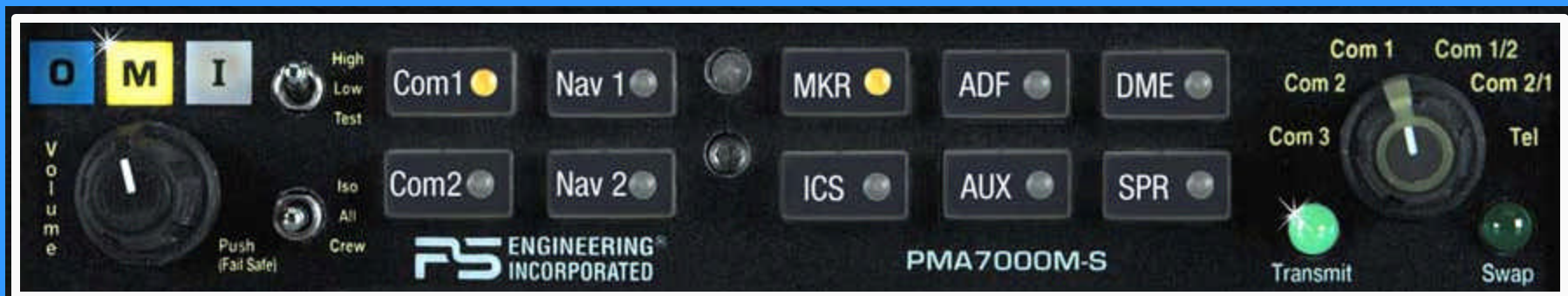
PMA7000M-S CAP Operation

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PMA7000M-S Standard Versions



Standard Version PMA7000M-S

PMA7000M-S 'Civil Air Patrol'



Added Split Com Modes

Black buttons, silver trim



Com 3 Button

PMA7000MS-CAP Operational Training



**Demo PMA7000MS
(NOT AIRWORTHY)**

RS ENGINEERING[®]
Sound Quality. Sound Engineering.

Com SWAP button

Pilot Headset

Copilot Headset



*Civil Air Patrol
Audio Selector Panel*

Yoke
Mounted
Swap Mode



Phones

Pilot

Mic

A/C RAD In

Phones

Copilot

Mic

Aircraft Radio Input (Com 1 Only)

Only pilot and copilot positions operate

The PMA7000M-S Features:



- **Full-function audio control panel:**
 - 3 coms, 2 navs, ADF, DME
 - 3 light marker beacon receiver
- **PS Engineering's innovative:**
 - Com1/Com2 /Com 3 **Split** Mode for cockpit resource management
 - Swap Mode for ease of operation
 - 6-pole filtered mic circuits for less noise, better clarity

Revolutionary Intercom



- All, ISO and Crew modes
- 6-Place Stereo intercom
 - Dual, independent auxiliary inputs
- Introducing *IntelliVox*™
 - Six INDEPENDENT mic sampling circuits
 - Constantly monitoring and adjusting VOX level
 - Field proven in helicopters and high noise cockpits
 - NO MANUAL ADJUSTMENT -EVER-

Basic Operation



- **Push Volume Control to switch on**
 - Unless in Com 3 mode, at least one com LED will light.
 - Backlighting comes on
- **Push Volume control to switch off**
 - Fail Safe mode places pilot on Com 1
 - Copilot/passengers have no audio
- **Intercom operation: Just talk**

PMA7000M-S Operation



Audio Selection

Bright LED
Auto dimmed

Marker, ADF, DME

Com receivers



Nav Receivers

Com 3 Audio Select

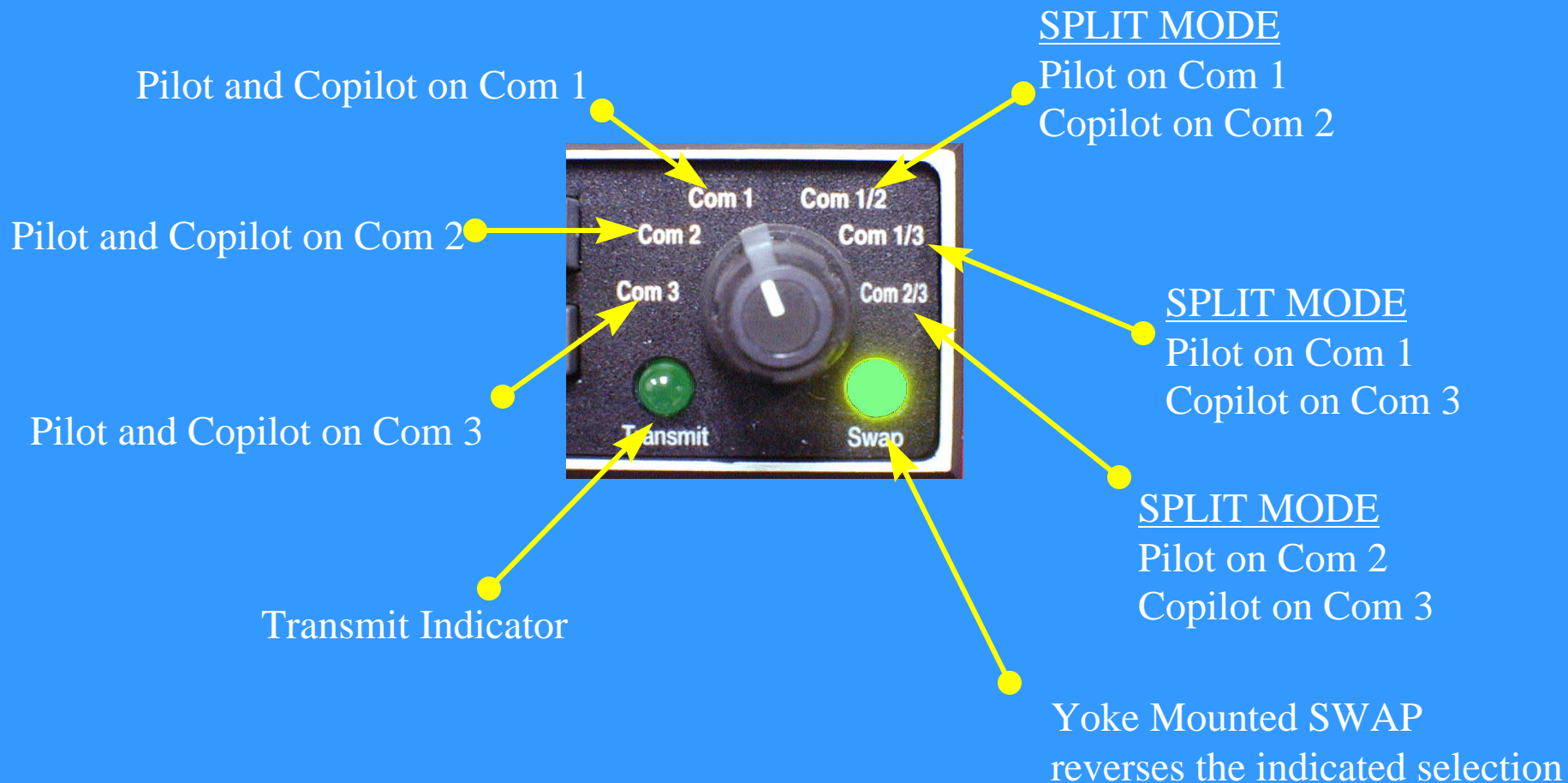
Cabin Speaker

Audio Selection



- **COM 1 and 2 are momentary buttons**
 - Receive audio always follows the Mic selector
 - Push button to add other com receive audio
- **Com 3 audio is latched**
 - Push Com 1, Com 2 and /or Com 3 to monitor
- **Receiver buttons latch**
 - Positive indication of the selected audio
 - LEDs also annunciate audio sources selected
- **SPR button places all selected audio in cabin speaker**

Transmitter Selection



Transmitter Selection



- **Rotary switch controls transmitter selection**
 - You can't transmit without listening to the receiver.
 - Selector has the same order as the panel -top to bottom, 1-3
- **Com 1, Com 2, Com 3**
 - Pilot and copilot can both transmit on same radio.
 - Pilot has PTT priority
 - Only person pushing PTT is heard over radio
- **Com 1/2**
 - Pilot transmit and receive on Com 1
 - Copilot transmit and receive on Com 2
- **Com 2/1**
 - Vice versa

CAP Transmitter Combinations



Mic Selector	Normal		Swap	
	Pilot	Copilot	Pilot	Copilot
Com 1	Com 1	Com 1	Com 2	Com 2
Com 2	Com 2	Com 2	Com 1	Com 1
Com 3	Com 3	Com 3	No Swap	No Swap
Com1/2	Com 1	Com 2	Com 2	Com 1
Com 1/3	Com 1	Com 3	Com 3	Com 1
Com 2/3	Com 2	Com 3	Com 3	Com 2

If the Com 3 button is pushed in a Com 3 split mode, the pilot will also hear Com 3 audio, but no transmit.

Pushing SWAP again, or moving MIC Selector cancels swap₁₂

Who's talking now?



- **Com 1 or Com 2 annunciator flashes to show which radio is transmitting.**
- **Pilot hears selected receive audio in split mode**
- **If Com 3 is selected he will hear it in split, and can elect to monitor Com 3 receptions**

Three transmit positions

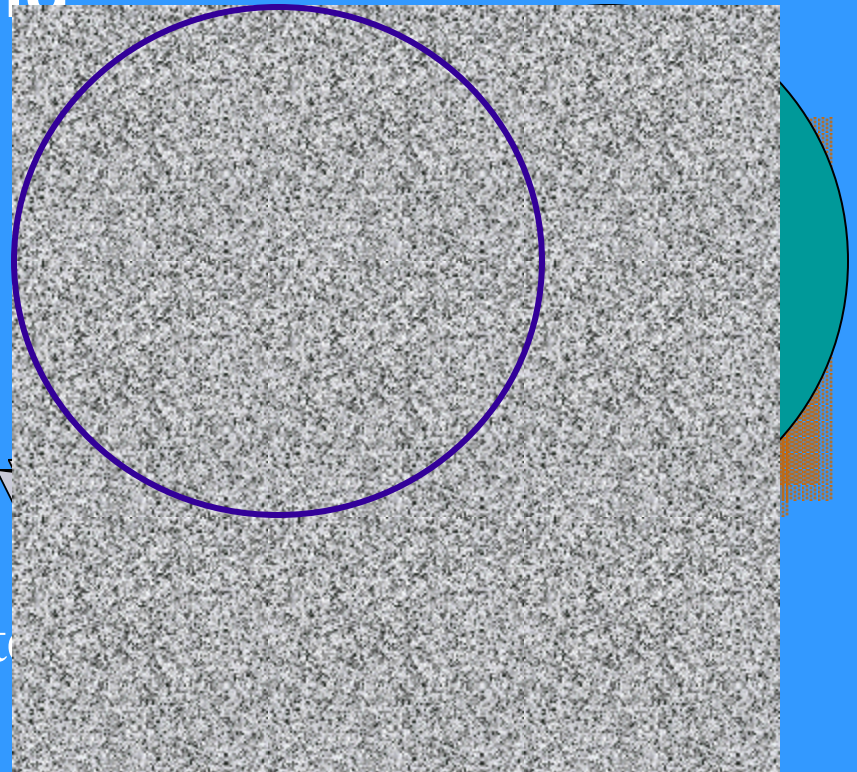


- Through an external switch some aircraft can be configured to exchange the copilot connection with the observer position.
- Gives observer position any radio transmit ability.
- Copilot becomes passenger

Split Mode Limitations



- Two comms transmitting in close proximity may bleed over.
- Depends on:
 - Emission (AM/FM=Better)
 - Frequency ($>$ Difference =Better)
 - Transmit Power (lower=Better)
 - Antenna location (Farther=Better)



Intercom Functions



Intercom
Volume
CW=Increase

Dual Independent Auxiliary Inputs
Front and back are separated.



Mode Select

ISO	Pilot in command
All	Everybody tunes in
Crew	Front vs. back

ICS Button
Activates Intercom in Split Modes
Aux muting Control

IntelliVOX™



Squelch

Intercom Functions



- **Volume Control**

- Only affects the intercom level.
 - Not radio or auxiliary volume.
- Intercom volume control for pilot and copilot only
 - Rear passengers are fixed volume.
 - Stereo headsets have individual volume controls, can be adjusted with screwdriver.

- **Push on/Push off switch**

- Fail-Safe mode connects pilot headset to Com 1 if unit off, or power removed.

Intercom Modes



• ISO

- Pilot only hears radios
- Copilot and passengers have intercom
- Copilot hears Aux 1
- Passengers hear Aux 2

• ALL

- Everybody hears everything
- Radios
- Intercom
- Pilot and copilot hear Aux 1
- Passengers hear Aux 2

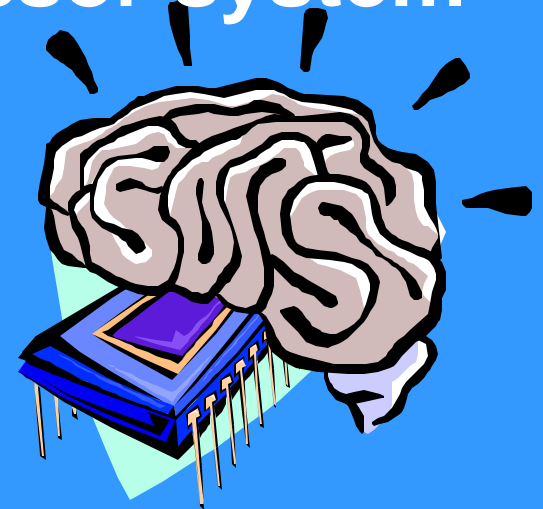
• Crew

- Pilot & Copilot hear radios
- Pilot and copilot have separate intercom
- Passengers have intercom, no radios.
- Crew- Aux 1
- Passengers- Aux 2

IntelliVox™



- **Revolutionary** microprocessor system
 - No manual control
 - 6-independent circuits
 - constant monitoring
- **Just speak normally**
 - Position microphone close to your lips
 - Use a microphone muff
 - Avoid direct drafts into microphone
 - More noise the better it works



Intercom Entertainment



- **Aux source #1 feeds pilot and copilot headset.**
 - is muted whenever the intercom or radios are active.
- **Push “ICS” button to disable muting of the auxiliary inputs**
- **Aux 2 feeds rear 4 seats.**
 - External switch in rear of aircraft to control Aux 2 muting

ICS

Marker Beacon Receiver



3-lights: **O**uter, **M**iddle and **I**nnor



Marker Modes

High	Sense
Low	Sense
Test	Lamps and receiver

Audio Selection

Marker Beacon Operation



- Receiver always on.
- Select MKR for receiver audio.
- High sense until tone acquired.
 - Select low sense if desired for precise station crossing indication.
- Test (T/M) function for lamps and audio circuits.
- MUTE (T/M) silences audio until next beacon acquired.

PTT ICS



- **Push to talk intercom (PTT)**
 - For very noisy conditions
 - Only for pilot and copilot positions
 - Must install ICS PTT button at each position
- **PTT-Enable select switch on panel**
 - Forces IntelliVox squelch closed
 - Then use **ICS PTT** to be heard on intercom

Night time dimming



- **The backlighting is adjusted by the aircraft dimmer OR**
 - Set at a fixed level at installation.
- **Annunciators and Marker lamps controlled by photocell on unit.**
 - The photodetector has a delay for smooth transition

ProSupport Customer Care



- **Questions or Comments or Problems :**
 - Call PS Engineering at (865) 988-9800
8:00 am to 5:00 p.m. Eastern time.
 - FAX: (865) 988-6619 any time
 - email: GUYICS@aol.com or
intercoms@ps-engineering.com
- **3-Year warranty**
 - Replacement for first 12 months
 - Repair for following 24 months

From ALL of us at PS Engineering



THANK YOU!